

REMARKS

Claims 1 and 4-57 are currently pending in this application. Claims 18-33 and 53-55 stand withdrawn. Claims 1, 18-28 and 57 are canceled herein without prejudice or disclaimer as to the subject matter contained therein. Applicants respectfully reserve the right to prosecute the subject matter of the canceled claims in one or more continuation or divisional applications. Claims 4-17, 34-52 and 56 are amended herein. Claims 4-17 and 29-56 will be pending on entry of the current amendments.

Support for the amended claims can be found throughout the specification as originally filed, *inter alia*, on page 7, lines 3-19, and in Example 1, Experiments 1 and 2. Accordingly, Applicants submit that no new matter is introduced by way of the present amendments.

Applicants also respectfully note that the previous response submitted on February 02, 2004, inadvertently misquoted the M.P.E.P. Specifically, the quoted language in response to the claim rejections under 35 U.S.C. § 103 stated in pertinent part “knowledge generally available to one skilled in the art.” However, the exact language in the M.P.E.P. corresponding to this quote recites “knowledge generally available to one of ordinary skill in the art.” *See* M.P.E.P. § 2142.

Applicants also respectfully correct a statement included in the prior response to office action filed February 2, 2004, in which Applicants stated in pertinent part that “Figure 6 corresponding to Example 1 demonstrates the presence of cytochrome c, which is a distinct compound from haeme (cytochrome c and haeme having different weights as measured by HPLC).” *See* Response to Office Action dated February 02, 2004, page 13, lines 15-17. With the benefit of a more detailed understanding of the technology, Applicants and their representatives submit that the reference to cytochrome c in Example 1 is as a control or standard of HPLC weight by which the weights of other compounds may be compared. The cytochrome c of Example 1 was not produced by the cultured cells, but was present as a reference standard for HPLC measurements. *See* specification, page 17, lines 10-11 and page 25, lines 8-11. Applicants submit, nonetheless, that this correction does not detract from Applicants’ position set forth in this or prior responses regarding the enablement of the specification for the full scope of claims.

Summary of Telephonic Interview

On November 11, 2005, Mr. Stanislaus Aksman, Mr. Robert C. Lampe III, and Examiner Chih-Min Kam, Ph.D., discussed by telephone the Response and Amendment Under 37 C.F.R. §1.116 filed with the USPTO on September 26, 2005, in the application and the Advisory Action mailed November 1, 2005. Applicants' representatives appreciate the Examiner extending the courtesy of the telephonic interview. During the interview, the Examiner indicated her willingness to consider additional claim amendments under 37 C.F.R. § 1.116.

The Examiner also indicated her willingness to consider claim amendments and remarks directed to the isolated nature of the claimed starter culture composition, and how the claimed starter culture composition differs from the references relied upon in the Office Action because the claimed starter culture composition comprising modified lactic acid bacterial cells is harvested or isolated from the culture medium following fermentation, and used as a starter culture for a subsequent fermentation process. Applicants indicated that they would provide evidence that a "starter" culture has a defined meaning in the art.

Rejections

Rejections under 35 U.S.C. § 112, 2nd paragraph

Claims 8 and 9 were rejected under 35 U.S.C. §112, second paragraph as allegedly indefinite. The Office Action states that the recitation of the term "about" is unclear.

Applicants respectfully disagree and traverse this rejection.

According to the CCPA, "it is well established that 'claims are not to be read in a vacuum, and limitations therein are to be interpreted in light of the specification in giving them their 'broadest *reasonable* interpretation.'" In re Marosi, 710 F.2d 799, 802, 218 U.S.P.Q. (BNA) 289, 292 (CCPA 1983) (*quoting In re Okuzawa*, 537 F.2d 545, 548, 190 U.S.P.Q. (BNA) 464, 466 (CCPA 1976)).

"Definiteness problems often arise when words of degree are used in a claim. That some claim language may not be precise, however, does not automatically render a claim invalid." Seattle Box v Ind. Crating and Packing, 731 F.2d 818, 826, 221 USPQ 568, 573-574 (Fed. Cir.

1984). Regarding issues of definiteness of claim language, particularly the term “about”, “the question becomes whether one of ordinary skill in the art would understand what is claimed when the claim is read in light of the specification.” BJ Services v. Halliburton Energy Services, 338 F.3d 1368, 67 USPQ2d (BNA) 1692 (Fed. Cir. 2003).

Applicants submit that the term “about” has a well-established meaning and is understood by those of skill in the art. For example, the American Heritage® Dictionary of the English Language, Fourth Edition (2000) (downloaded from www.dictionary.com on September 16, 2005) defines the term as “approximately, nearly, almost”. A copy of this definition is attached herewith as Appendix B.

Applicants further submit that the Office Action misconstrues the remarks on page 16 of the Response filed February 02, 2004. The Office Action interprets this remark out of the context of the entire sentence which reads: “While not definite, Applicants assert that one of skill in the art reading the claim language and the specification in its entirety would understand that the claim recitation of ‘...about two hours...’ includes a reasonable degree of time duration either greater than or less than two hours, but substantially two hours in length.” Response, pages 16-17. This is not an admission that “about” is indefinite, but a discussion of the meaning of the term as it is understood in the art. Applicants submit that one of ordinary skill in the art would understand what is claimed when the claim is read in light of the specification.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 8 and 9 under 35 U.S.C. § 112, 2nd paragraph.

Claim 34 was rejected under 35 U.S.C. §112, second paragraph. Applicants have amended claim 34 to clarify that the *Lactococcus lactis* subsp. *lactis* strain CHCC373 deposited under accession number DSM 12015 is the lactic acid bacterial cell that is to be modified (See p. 9 lines 1-5 of the specification).

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 34 under 35 U.S.C. § 112, 2nd paragraph.

Claims Rejections- 35 U.S.C. §112, first paragraph

Claims 1, 4-17, 34-52, 56 and 57 were rejected under 35 U.S.C. § 112, 1st paragraph, for the scope of enablement. More specifically, claims 1, 4-17, 34-52, 56 and 57 were rejected as

allegedly lacking enablement for lactic acid bacterial cells modified to contain at least 0.1 ppm of any porphyrin containing compound. Claim 5 was rejected under 35 U.S.C. § 112, 1st paragraph, as allegedly lacking enablement for lactic acid bacterial cells modified when treated under anaerobic conditions. Claims 8 and 9 were rejected under 35 U.S.C. § 112, 1st paragraph, as allegedly lacking enablement for making cells that will be effective when inoculated in a concentration of 10^7 cells/ml into low pasteurized skim milk having 8 ppm of dissolved oxygen. Claims 9 and 10 were rejected under 35 U.S.C. § 112, 1st paragraph, as allegedly lacking enablement for lactic acid bacterial cells modified when treated under anaerobic conditions. Claim 12 was rejected under 35 U.S.C. § 112, 1st paragraph, as allegedly lacking enablement for lactic acid bacterial cells modified when treated under anaerobic conditions. Claim 16 was rejected under 35 U.S.C. § 112, 1st paragraph, as allegedly lacking enablement for lactic acid bacterial cells modified to contain at least 0.1 ppm of any porphyrin containing compound using pure strains. Claims 40-42 and 45-47 were rejected under 35 U.S.C. § 112, 1st paragraph, as allegedly lacking enablement for making and/or using the invention at “at least 60 ppm or higher of a porphyrin-containing compound”, or “at least 40 ppm or higher of a cytochrome”, respectively. Claims 48-52 were rejected under 35 U.S.C. § 112, 1st paragraph, as allegedly lacking enablement for cells otherwise treated that reduce the amount of dissolved oxygen at greater than 35% per hour. Since claims 1 and 57 are cancelled, rejections thereof are moot.

Applicants respectfully disagree and traverse this rejection.

It is well established under 35 U.S.C. § 112 ¶ 1, that “[t]he test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation.” (*United States v. Telectronics, Inc.*, 857 F.2d 778, 785 (Fed. Cir. 1986)). The test of enablement is not whether any experimentation is necessary, but whether, if experimentation is necessary, it is undue. *In re Angstadt*, 537 F.2d 498, 504, 190 USPQ 214, 219 (CCPA 1976), MPEP § 2164.01.

Applicants respectfully submit that their specification enables one of ordinary skill in the art to practice the claimed invention for all the reasons discussed during prosecution of this application, e.g., *see* pages 12-16 of the Request for Extension of Time and Response to Office Action mailed August 1, 2003, filed by Applicants on February 2, 2004, which are incorporated herein by reference. In addition, Applicants submit herewith as Appendix A, a Declaration under 37 C.F.R. § 1.132 of Mr. Asger Geppel, a named inventor in the present application.

Based on his educational background and his industrial experience, Mr. Geppel considers himself a person of ordinary skill in the technology of lactic acid bacterial cells and modification thereof. According to Mr. Geppel, a person of ordinary skill in the art understands “porphyrin compound” to be a generic name for a group of cyclic tetrapyrrole derivative compounds whose structures are derived from that of porphyrin by substitution at the carbon atoms located at the apices of the pyrrole core with various functional groups, and are widely distributed in plants and animals. In Mr. Geppel’s opinion a person of ordinary skill knows that different iron containing porphyrin compounds share the same chemical core structure. *See Declaration, paragraphs 6 and 14.* The Declaration identifies haeme, haemin, cytochrome and hemoglobin as examples of iron containing porphyrin compounds. *See Declaration, paragraph 7.*

Mr. Geppel discusses the production of lactic acid bacterial cells comprising an iron containing porphyrin compound by adding haemin to the fermentation medium under both aerobic and anaerobic conditions. *See Declaration, paragraph 11.* According to the Declaration, “[s]ince all types of iron containing porphyrin compounds are closely related (*See specification, page 7, lines 14-16*), it is my opinion that the invention should work for all types of iron containing porphyrin compounds.” *See Declaration, paragraph 12.* The Declaration further states that “pure” haemin does not need to be used to make LAB cells which comprise an iron containing porphyrin compound, but that other haeme proteins from animal sources, such as blood, could be used. *See Declaration, paragraph 8.*

Mr. Geppel states that “[i]n my opinion, by demonstrating that iron containing porphyrin compounds are comprised by the cells when they are grown in a medium containing haemin, the inventors have enabled the invention for all iron containing porphyrin compounds. In particular, based on the specification, including the examples, it is my opinion that I would be able to make LAB cells comprising an iron containing porphyrin ring when cultured in a fermentation medium containing any of the iron containing porphyrin compounds in any effective amounts desirable, without undue experimentation, if any were needed.” *See Declaration, paragraph 11.*

As a person of ordinary skill in the art, Mr. Geppel states that if the LAB cells treated with an iron containing porphyrin compound (e.g., haemin) can comprise and maintain an iron containing porphyrin ring derived from that or a similar iron containing porphyrin compound, it is Mr. Geppel’s opinion that the person skilled in the art would understand that LAB cells can

comprise and maintain an iron containing porphyrin ring derived from other sources (e.g., synthetically made), and work in a similar way. See Declaration, paragraph 14.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 4-17, 34-52, and 56 under 35 U.S.C. § 112, 1st paragraph, for the scope of enablement.

Claims Rejections- 35 U.S.C. §103(a)

Claims 1, 4-7, 10-17, 35-39, 43, 44, 48 and 49 under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent 5,075,226 (hereinafter “Kaneko *et al*”).

Applicants respectfully disagree and traverse this rejection.

The claims as currently amended are drawn to a starter culture composition useful in manufacturing and preservation of food and feed products comprising at least one modified lactic acid bacterial cell that comprises at least 0.1 ppm on a dry matter basis of a porphyrin compound which includes iron. Applicants respectfully submit that there is no teaching in Kaneko *et al*, nor a suggestion to modify the teachings of Kaneko *et al*, to obtain the claimed invention.

Applicants submit that a “starter” culture has a defined or recognized meaning in the art. For example, in the McGraw-Hill Dictionary of Scientific and Technical Terms, 5th Ed., a “starter” in the field of microbiology is defined as “[a] culture of microorganisms, either pure or mixed, used to commence a process, for example, cheese production.” See McGraw-Hill Dictionary of Scientific and Technical Terms, 5th Ed., definition of Starter [MICROBIO], Sybil Parker Editor in Chief, Copyright 1994. A courtesy copy of this definition is provided as Appendix C.

Kaneko *et al* describe the use of bacterial cultures to produce diacetyl and acetoin (See Kaneko *et al*, Col. 3-4). These bacterial cultures as described by Kaneko *et al* are used to produce diacetyl and acetoin, and there is no discussion or contemplation of the isolation or harvesting of these bacteria from the end products *following completion of the fermentation process* described in Kaneko *et al* for any use, much less as an isolated starter culture. (See Kaneko *et al*, Examples 1-5). As a result, not all of the claim elements are taught or suggested

by Kaneko *et al*, and Applicants submit that the claims as amended are not rendered obvious by Kaneko *et al*.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1, 4-7, 10-17, 35-39, 43, 44, 48 and 49 under 35 U.S.C. §103(a).

CONCLUSION

An indication of allowance of all claims is respectfully solicited. Early notification of a favorable consideration is respectfully requested. In the event any issues remain, Applicants would appreciate the courtesy of a telephone call to their counsel to resolve such issues and place all claims in condition for allowance.

It is believed that all necessary fees are enclosed. However, if any additional fees are determined to be required, the Commissioner is hereby authorized to charge these fees to the undersigned's **Deposit Account No. 50-0206**.

Respectfully submitted,

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3 entries found for *about*.

a·bout  **Pronunciation Key** (ə·bout)
adv.

1. Approximately; nearly: *The interview lasted about an hour.*
2. Almost: *The job is about done.*
3. To a reversed position or direction: *Turn about and walk away slowly.*
4. In no particular direction: *wandering about with no place to go.*
5. All around; on every side: *Let's look about for help.*
6. In the area or vicinity; near: *spoke to a few spectators standing about.*
7. In succession; one after another: *Turn about is fair play.*
8.
 - a. On the verge of; presently going to. Used with the infinitive: *The chorus is about to sing.*
 - b. Usage Problem. Used to show determination or intention in negative constructions with an infinitive: *I am not about to concede the point.*

prep.

1. On all sides of; surrounding: *I found an English garden all about me.*
2. In the vicinity of; around: *explored the rivers and streams about the estate.*
3. Almost the same as; close to; near.

4.
 - a. In reference to; relating to; concerned with: *a book about snakes.*
 - b. In the act or process of: *While you're about it, please clean your room.*
5. In the possession or innate character of: *Keep your wits about you.*

adj.

1. Moving here and there; astir: *The patient is up and about.*
2. Being in evidence or existence: *Rumors are about concerning his resignation.*

[Middle English, from Old English *onbūtan* : *on*, *in*; see *on* + *būtan*, *outside*; see *ud-* in Indo-European Roots.]

Usage Note: The construction *not about to* is often used to express determination: *We are not about to negotiate with terrorists.* A majority of the Usage Panel considers this usage acceptable in speech but not in formal writing. *About* is traditionally used to refer to the relation between a narrative and its subject: *a book about Cézanne*; *a movie about the Boston Massacre*. This use has lately been extended to refer to the relation between various nonlinguistic entities and the things they make manifest, as in *The party was mostly about showing off their new offices* or *His designs are about the use of rough-textured materials*. This practice probably originates with the expression *That's what it's all about*, but it remains controversial. Fifty-nine percent of the Usage Panel rejected this use in the example *A designer teapot isn't about making tea; it is about letting people know that you have a hundred dollars to spend on a teapot*.

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about

In addition to the idioms beginning with about, also see at about; beat about the bush; bring about; cast

about; come about; do an about-face; get about; go about (one's business); how about (that); just about; knock about; lay about; man about town; nose about (around); no two ways about it; order someone about; out and about; see about; send someone about someone's business; set about; that's about the size of it; up and about; what about someone (something).

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about

adj : on the move; "up and about"; "the whole town was astir over the incident" [syn: about(p), astir(p)]
 adv 1: (of quantities) imprecise but fairly close to correct; "lasted approximately an hour"; "in just about a minute"; "he's about 30 years old"; "I've had about all I can stand"; "we meet about once a month"; "some forty people came"; "weighs around a hundred pounds"; "roughly \$3,000"; "holds 3 gallons, more or less"; "20 or so people were at the party" [syn: approximately, close to, just about, some, roughly, more or less, around, or so] 2: all around or on all sides; "dirty clothes lying around (or about)"; "let's look about for help"; "There were trees growing all around"; "she looked around her" [syn: around] 3: in the area or vicinity; "a few spectators standing about"; "hanging around"; "waited around for the next flight" [syn: around] 4: to or among many different places or in no particular direction; "wandering about with no place to go"; "people were rushing about"; "news gets around (or about)"; "traveled around in Asia"; "he needs advice from someone who's been around"; "she sleeps around" [syn: around] 5: in or to a reversed position or direction; "about face"; "brought the ship about"; "suddenly she turned around" [syn: around] 6: in rotation or succession; "turn about is fair play" 7: (of actions or states) slightly short of or not quite accomplished; 'near' is sometimes used informally for 'nearly' and 'most' is sometimes used informally for 'almost'; "the job is (just) about done"; "the baby was almost asleep when the alarm sounded"; "we're almost finished"; "the car all but ran her down"; "he nearly fainted"; "talked for nigh onto 2 hours"; "the recording is well-nigh perfect"; "virtually all the parties signed the contract"; "I was near exhausted by the run"; "most everyone agrees" [syn: just about, almost, most, all but, nearly, near, nigh, virtually, well-nigh]

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McGraw-Hill Dictionary of Scientific and Technical Terms

Fifth Edition

Sybil P. Parker

Editor in Chief

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caused by the presence of neighboring ions or atoms in a gas, liquid, or solid. Also known as electric field effect. { 'stärk i,fekt }

Stark-Einstein law See Einstein photochemical equivalence law. { 'stärk 'in,s'tin,lö }

Stark-Lunelund effect [ELECTROMAG] The polarization of light emitted from a beam of moving atoms in a region where there are no electric or magnetic fields. { 'stärk 'lün-ə,lənd i,fekt }

Stark number See Stefan number. { 'stärk,nəm-bər }

star lamp [ELEC] A high-pressure xenon arc, used in a planetarium, which produces a tiny, intense point of light focused through thousands of individual lenses and pinholes, and projected to the planetarium's dome. { 'stär,ləmp }

starlike region [MATH] A region in the complex number plane such that the line segment joining any of its points to the origin lies entirely in the region. { 'stär,lük,rē-jən }

starling [CIV ENG] A protective enclosure around the pier of a bridge that consists of piles driven close together and is often filled with gravel or stone to protect the pier by serving as a break to water, ice, or drift. { 'stär-liŋ }

Starling's law of the heart [PHYSIO] The energy associated with cardiac contraction is proportional to the length of the myocardial fibers in diastole. { 'stär-liŋz 'lə əv ðə 'härt }

star map [ASTRON] A map indicating the relative apparent positions of the stars. Also known as star chart. { 'stär,map }

star model See stellar model. { 'stär,mäd-əl }

star motions [ASTRON] For the Milky Way, this includes rotation within the galaxy, motion which is described with respect to an external frame of reference; superposed on this systematic rotation are the individual motions of a star; each star moves in a somewhat elliptical orbit, with respect to the local standard of rest, the standard moving in a circular orbit around the galactic center. { 'stär,mō-shənz }

star names [ASTRON] Nomenclature for the identification of stars; hundreds of stars have proper names that are traditional, for example, Betelgeuse; this star may be also identified as α Orionis (Alpha Orionis), α for its being the brightest visual star in the constellation Orion. { 'stär,nāmz }

star network [COMMUN] A communications network in which all communications between any two points must pass through a central node. Also known as centralized configuration. [ELEC] A set of three or more branches with one terminal of each connected at a common node to give the form of a star. Also known as star connection; Y connection. { 'stär 'net,work }

star place [ASTRON] The position of a star on the celestial sphere, usually measured by its right ascension and declination. { 'stär,pläs }

star ruby [MINERAL] An asteriated variety of ruby with normally six chatoyant rays. { 'stär 'rū-bē }

star sapphire [MINERAL] A variety of sapphire exhibiting a six-pointed star resulting from the presence of microscopic crystals in various orientations within the gemstone. { 'stär 'sa,fir }

star-shaped set [MATH] With respect to a point P of a euclidean space or vector space, a set such that if Q is a member of the set, then so is any point on the line segment PQ . { 'stär 'shäpt,set }

star shell See illuminating projectile. { 'stär,shel }

starspot [ASTRON] A region of reduced brightness of the surface of a star comparable to a sunspot on the Sun's surface. { 'stär,spät }

star stream See star drift. { 'stär 'strēm }

star streaming [ASTRON] A phenomenon that results from the mean random speeds of stars being different in different directions. { 'stär 'strēm-iŋ }

starsubalgebra [MATH] A subalgebra of a star algebra which is mapped onto itself by the involution operation. { 'stär 'səb,al-jə-brə }

start bit [COMPUT SCI] The first bit transmitted in asynchronous data transmission to unequivocally indicate the start of the word. { 'stär't,bit }

start codon See initiation codon. { 'stär't 'kō,dän }

start dialing signal [COMMUN] Signal transmitted from the incoming end of a circuit, following the receipt of a seizing signal, to indicate that the necessary circuit conditions have been established for receiving the numerical routine information. { 'stär't 'dī-iŋ 'sig-nəl }

started task [COMPUT SCI] A computer program that is kept

permanently in main storage and, though not a part of the operating system, is treated as though it were. { 'stär'd-əd 'task }

start element [COMMUN] The first element of a character in certain serial transmissions, used to permit synchronization. { 'stär't,el-ə-mənt }

star telescope [OPTICS] An accessory of the marine navigational sextant designed primarily for star observations; it has a large objective to give a greater field of view and increased illumination; it is an erect telescope, that is, the object viewed is seen erect as opposed to the inverting telescope in which the object viewed is inverted. { 'stär,tel-ə-sköp }

starter [ELEC] 1. A device used to start an electric motor and to accelerate the motor to normal speed. 2. See engine starter.

[ELECTR] An auxiliary control electrode used in a gas tube to establish sufficient ionization to reduce the anode breakdown voltage. Also known as trigger electrode. [ENG] A drill used for making the upper part of a hole, the remainder of the hole being made with a drill of smaller gage, known as a follower. [MICROBIO] A culture of microorganisms, either pure or mixed, used to commence a process, for example, cheese manufacture. { 'stär-dər }

star test [OPTICS] A procedure in which a telescope is directed at a bright star and the in-focus and out-of-focus images and diffraction patterns of the star are examined to detect aberrations and abnormalities in the optical system. { 'stär,tes't }

starting barrel [ENG] A short (12 to 24 inches or 30 to 60 centimeters) core barrel used to begin coring operations when the distance between the drill chuck and the bottom of the hole or to the rock surface in which a borehole is to be collared is too short to permit use of a full 5- or 10-foot-long (1.5- or 3.0-meter) core barrel. { 'stär'd-iŋ,'bär-əl }

starting box [ELEC] A device for providing extra resistance in the armature of a motor while it is being started. { 'stär'd-iŋ,'bäks }

starting friction See static friction. { 'stär'd-iŋ,'frik-shən }

starting mix [MATER] In pyrotechnic devices, an easily ignited mixture which transmits flame from an initiating device to a less readily ignitable composition. { 'stär'd-iŋ,'miks }

starting motor See engine starter. { 'stär'd-iŋ,'mōd-ər }

starting reactor [ELEC] A reactor that is used to limit the starting current of electric motors, and usually consists of an iron-core inductor connected in series with the machine stator winding. { 'stär'd-iŋ,rē,äc-tər }

starting resistance [MECH ENG] The force needed to produce an oil film on the journal bearings of a train when it is at a standstill. { 'stär'd-iŋ,riz-istəns }

starting sheet [MET] A thin sheet of metal used as the initial cathode in electrowinning or electrorefining. { 'stär'd-iŋ,'shēt }

starting taper [DES ENG] A slight end taper on a reamer to aid in starting. { 'stär'd-iŋ,'tā-pər }

startle response [PHYSIO] The complex, involuntary, usually spasmodic psychophysiological response movement of an organism to a sudden unexpected stimulus. { 'stär'd-əl,rī,'spāns }

startover [COMPUT SCI] Program function that causes a computer that is not active to become active. { 'stär,dō-vər }

startover data transfer and processing program [COMPUT SCI] Program which controls the transfer of startover data from the active to the standby machine and their subsequent processing by the standby machine. { 'stär,dō-vər 'dad-ə,'tranz-fər ən 'prä,ses-iŋ,'prō,gram }

startpoint [MOL BIO] The deoxyribonucleic acid base pair that corresponds to the first nucleotide incorporated into the primary ribonucleic acid (RNA) transcript by RNA polymerase. { 'stär't,pōint }

star tracker See astrotracker. { 'stär,'trak-ər }

start-stop multivibrator See monostable multivibrator. { 'stär't 'stöp,mäl-ti-'vī,'bräd-ər }

start-stop printing telegraph [COMMUN] Form of printing telegraph in which the signal-receiving mechanisms, normally at rest, are started in operation at the beginning and stopped at the end of each character transmitted over the channel. { 'stär't 'stöp 'print-iŋ 'tel-ə-graf }

start-stop system [COMMUN] A telegraph system in which each group of code elements corresponding to a character, is preceded by a start signal that prepares the receiving mechanism to receive and register a character, and is followed by a stop signal that brings the receiving mechanism to rest in preparation for the reception of the next character. { 'stär't 'stöp,'sis-təm }

start time [IND ENG] The calendar time at which the manu-